KANTHAL®

NISIL
SAFETY INFORMATION SHEET

数据表

This Safety Information Sheet provides essential health, safety, and environmental information for Nisil, a nickel-silicon (NiSi) alloy primarily used in thermocouple applications due to its stable thermoelectric properties and good oxidation resistance at elevated temperatures. Nisil is typically used as the negative leg in thermocouple Type N, paired with Nicrosil, for high-accuracy temperature measurement in demanding environments. The information herein is intended to assist users in the safe handling, storage, processing, and disposal of Nisil in various industrial and manufacturing environments. While Nisil is considered stable under normal conditions, appropriate precautions should always be taken to minimize risks during its use. This document is not a substitute for regulatory compliance or a Material Datasheet, but complements it by offering additional safety guidance specific to this material.

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Trade name: Nisil

Product type: Thermo Element

Manufacturer/Supplier:
Kanthal AB
Box 502
734 27 Hallstahammar
+46 220-210 00

E-mail: ehs@kanthal.com

Emergency telephone: Use your local emergency number

HAZARDS IDENTIFICATION

H-value:
H351 Warning; Suspected of causing cancer
H317 Warning; May cause an allergic skin reaction.
H372 Danger; Causes damage to organs through prolonged or repeated exposure.

Injurious to health properties:
Nickel limited evidence of a carcinogenic effect.
Nickel may cause sensitization by skin contact.

COMPOSITION/INFORMATION ON INGREDIENTS

Compounds	EINECS-no.	CAS-no.	Content %	H-value
Nickel	231-111-4	7440-02-0	Balance	H351 H317 H372

FIRST AID MEASURES

Inhalation: Move to fresh air.

Skin contact: Wash with soap and water.

Eye contact: Rinse immediately with water for several minutes, with eyelids held open.

Ingestion: Not a normal route of exposure.

FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use suitable extinguishing media for surrounding materials and type of fire.

Extinguishing media which shall not be used for safety reasons: None known.

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases: None known.

Special protective equipment for firefighters: Wear fully protective impervious suit.

ACCIDENTAL RELEASE MEASURES

Personal precautions: Use protective clothing and gloves. Also see p.8

Environmental precautions: -

Methods for cleaning up: -

HANDLING AND STORAGE

Handling: Follow generally accepted industrial practice for good hygiene.

Storage: Keep dry.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values

Hygiene standards and exposure limits may differ from country to country. Check those currently applying in your country and comply with regulations. Examples of exposure limit applying Sweden are given below:

Compound	Exposure limit	Type of value
Nickel	0,5 mg/m3	NGV (Total)

NGV = Level Limit Value, sanitary limit value for exposure during one working day.

Exposure controls

Preventive action: Good general ventilation is recommended.

Respiratory protection: Use when necessary.

Hand protection: Protective gloves, avoid skin contact.

Eye protection: Wear safety glasses when tooling.

Skin protection: Wear suitable protective clothing and protective shoes.

PHYSICAL AND CHEMICAL PROPERTIES

Form: Solid, meta

Colour: Metallic

Odour: Odourless

Density: ≈ 8,6 g/cm3

Melting point (approx): ≈ 1,420°C (≈ 2,590°F)

Water solubility: Insoluble

STABILITY AND REACTIVITY

Conditions to avoid: -

Materials to avoid: -

Hazardous decomposition products: -

TOXICOLOGICAL INFORMATION

Inhalation: Dust may cause sensitive persons problem with respiration.

Skin contact: May cause contact eczema and allergy when repeatedly skin contact.

Eye contact: Product dust may cause temporary mechanical eye irritation.

Ingestion: Not a normal route of exposure.

Nickel

Nickel is the most commonly occurring contact allergen. According to surveys from the USA, Italy, Denmark, Finland and Sweden, 8-22 % of women and 0.3-3 % of men develop hypersensitivity to nickel (National Chemicals Inspectorate, Sweden, 1995). The main method of exposure is contact with metallic nickel and/or nickel alloys.

Exposure to nickel has been linked to a risk of lung cancer and nasal cancer, but it has not been possible to identify the form in which nickel is carcinogenic.

ECOLOGICAL INFORMATION

No data available.

DISPOSAL CONSIDERATIONS

Disposal in accordance with all applicable local and national regulations.

TRANSPORT INFORMATION

Road transport (ADR): Not classified as dangerous in the meaning of transport regulations.

REGULATORY INFORMATION

H-value:
H351 Suspected of causing cancer.
H317 May cause an allergic skin reaction.
H372 Danger: Causes damage to organs through prolonged or repeated exposure.

P-value:
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P314 Get medical advice/ attention if you feel unwell.

OTHER INFORMATION

Information in this Safety Information Sheet is based on the form the product is released on the market.

List of relevant H phrases:
H351 Warning; Suspected of causing cancer.
H317 Warning; May cause an allergic skin reaction.
H372 Danger; Causes damage to organs through prolonged or repeated exposure.

Declaration
The information given in this safety information sheet is based on the present level of our knowledge and experience. The data sheet describes the products with respect to safety requirements. The data given is not intended as a confirmation of product properties and does not constitute a legal contractual relationship, nor should it be used as the basis for ordering these products.

Revision:
Revised in accordance with CLP regulation. EC 1272/2008.